Energy

Except for large scale projects, a detailed energy analysis including computations of BTU requirements, etc, is not needed.

The environmental study should discuss in general terms the energy requirements and conservation potential of various alternatives under consideration. This general discussion might recognize that the energy requirements of various construction alternatives are similar and are generally greater than the energy requirements of the no build alternative. Additionally, the discussion could point out that the post-construction operational energy requirements of the facility should be less with the build alternative as opposed to the no build alternative. In such a situation, one might then conclude that the savings in operational energy requirements would more than offset construction energy requirements and thus, in the long term, result in a net saving in energy usage.

An energy analysis is required for any project for which a significant energy impact is expected to result. An energy analysis should include the following:

1. Items 1-6, as required for an air and/or noise analysis, listed in the *Air Quality Impacts* section.

2. Total cost per segment (including right-of-way and relocation costs).

3. Cost breakdown per segment for each of the following:
    a. Structures (bridges)
    b. Landscaping
    c. Signing and lighting

4. Existing and proposed pavement types

5. Existing and proposed grades (nearest one-half percent) and the lengths of each grade

For major projects with potentially significant energy impacts, the environmental study should discuss any *significant* direct and/or indirect energy impacts of the proposed action. Direct energy impacts refer to the energy consumed by vehicles using the facility. Indirect impacts include construction energy and such items as the effects of any changes in automobile usage. The actions relationship and consistency with any state and/or regional energy plan should also be indicated.

The final environmental study should identify any energy conservation measures that will be implemented as a part of the recommended alternative. Measures to conserve energy include the use of high-occupancy vehicle incentives, measures to improve traffic flow, and also pedestrian and bicycle facilities.